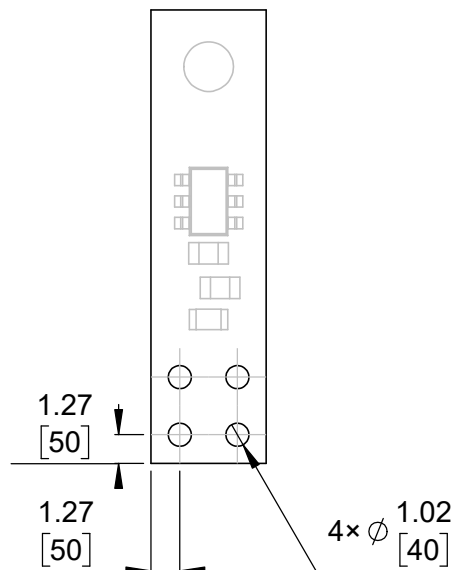


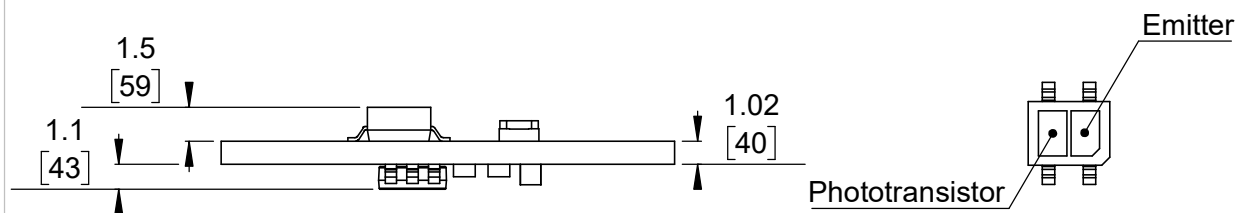
① Board dimensions (top view)
Scale 3:1



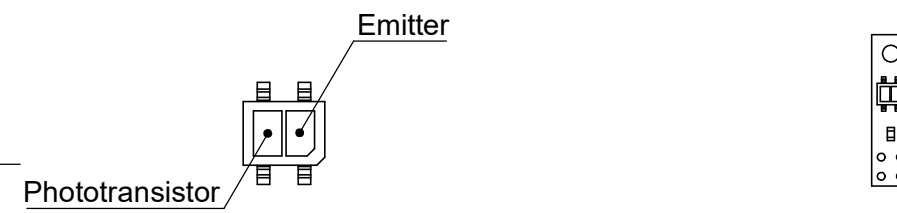
② Connector callouts (bottom view)
Scale 3:1



③ Isometric view
Scale 3:1



④ Profile
Scale 3:1




⑤ QTR sensor
Scale 3:1

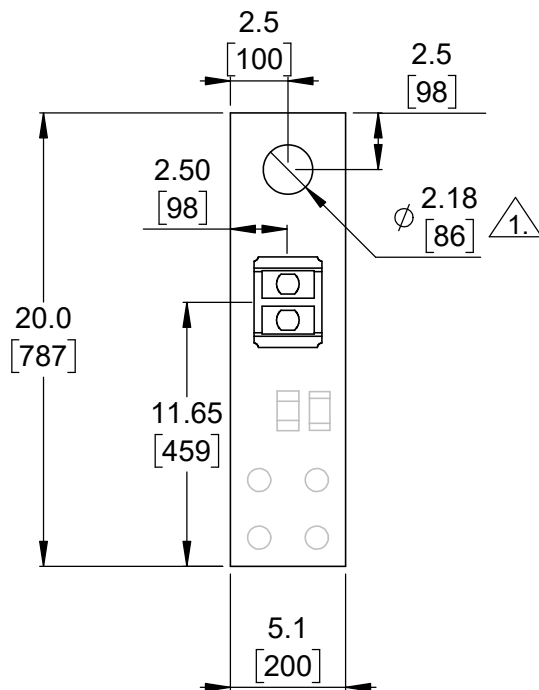
⑥ Actual size
Scale 1:1

1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

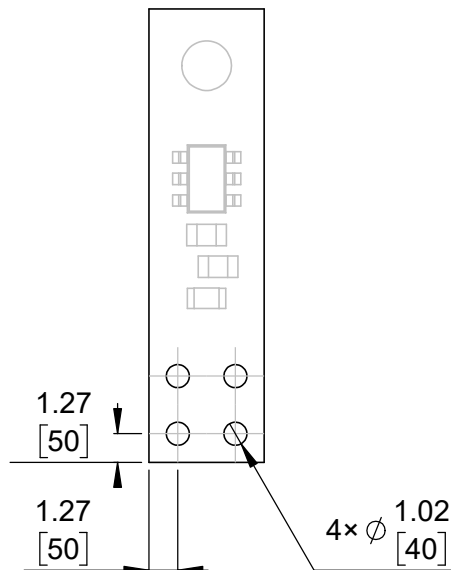
<https://www.pololu.com/category/123>

Name: QTR-HD-01x Reflectance Sensor		Item number: 4101, 4201  © 2025 Pololu Corporation
Drawing date: 29 September 2025	Dev code: irs21a	
Units: mm [mil]	Material: mixed	





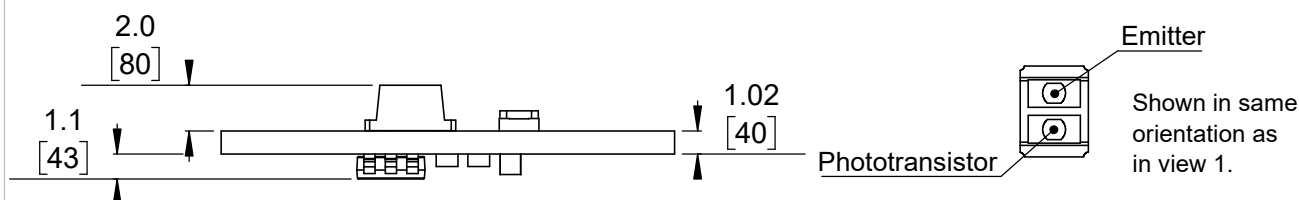
① Board dimensions (top view)
Scale 3:1



② Connector callouts (bottom view)
Scale 3:1



③ Isometric view
Scale 3:1




④ Profile
Scale 3:1

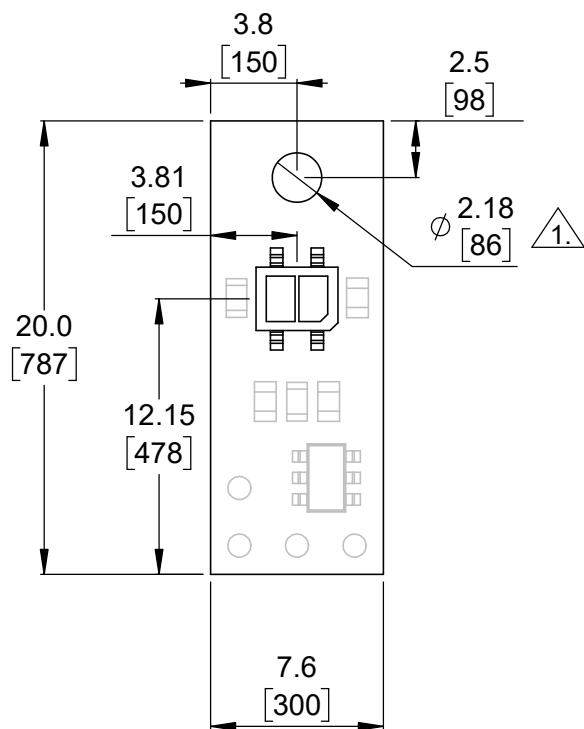
⑤ QTRX/QTRXL sensor
Scale 3:1

⑥ Actual size
Scale 1:1

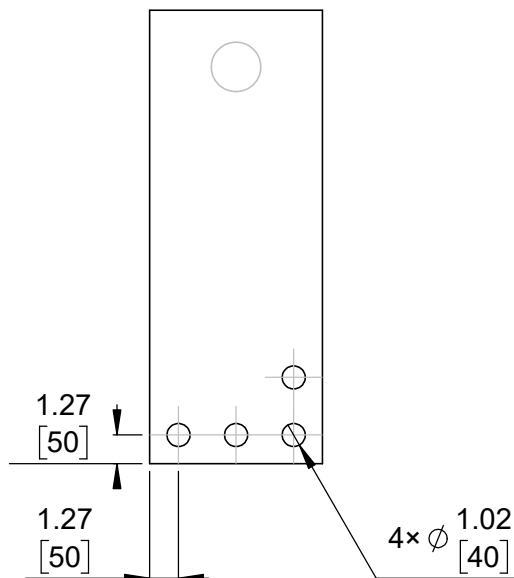
1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

<https://www.pololu.com/category/123>

Name: QTRX/QTRXL-HD-01x Reflectance Sensor		Item number: 4301, 4401, 4501, 4601
Drawing date: 29 September 2025	Dev code: irs21j	 © 2025 Pololu Corporation
Units: mm [mil]	Material: mixed	



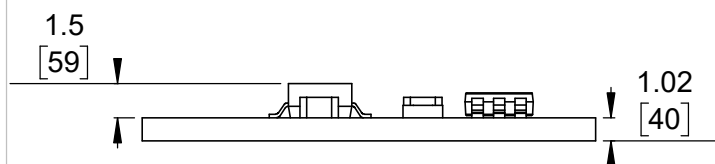
① Board dimensions (top view)
Scale 3:1



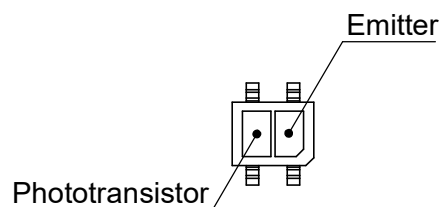
② Connector callouts (bottom view)
Scale 3:1



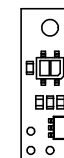
③ Isometric view
Scale 3:1



④ Profile
Scale 3:1




⑤ QTR sensor
Scale 3:1



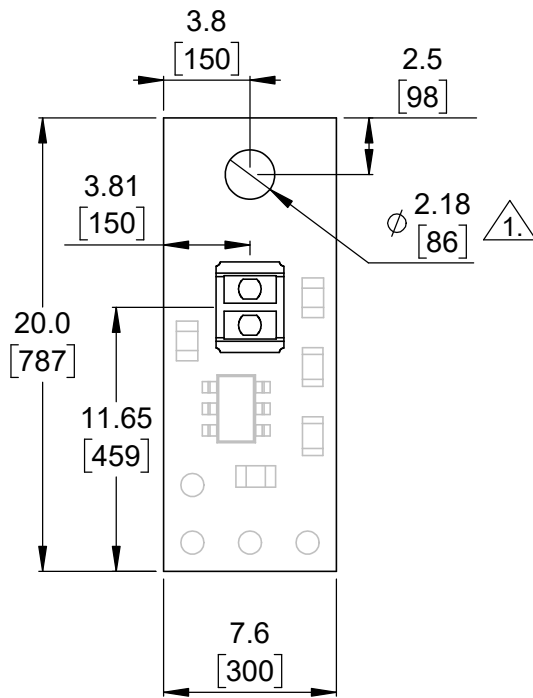
⑥ Actual size
Scale 1:1

1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

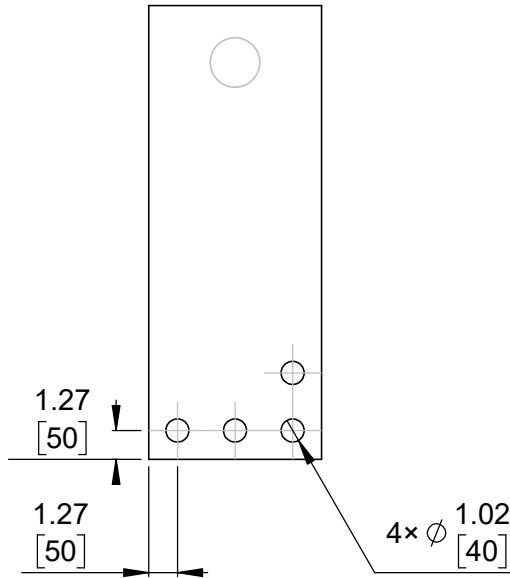
<https://www.pololu.com/category/123>

Name: QTR-MD-01x Reflectance Sensor		Item number: 4141, 4241  © 2025 Pololu Corporation
Drawing date: 29 September 2025	Dev code: irs21b	
Units: mm [mil]	Material: mixed	

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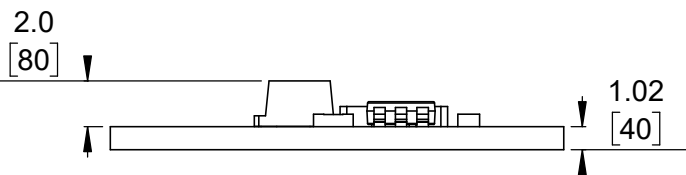
① Board dimensions (top view)
Scale 3:1



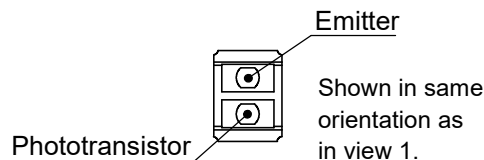
② Connector callouts (bottom view)
Scale 3:1



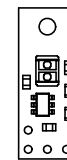
③ Isometric view
Scale 3:1



④ Profile
Scale 3:1




⑤ QTRX/QTRXL sensor
Scale 3:1

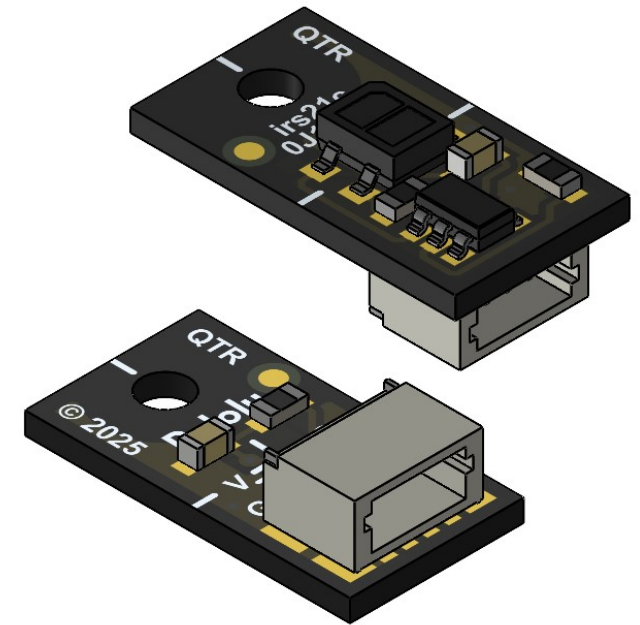
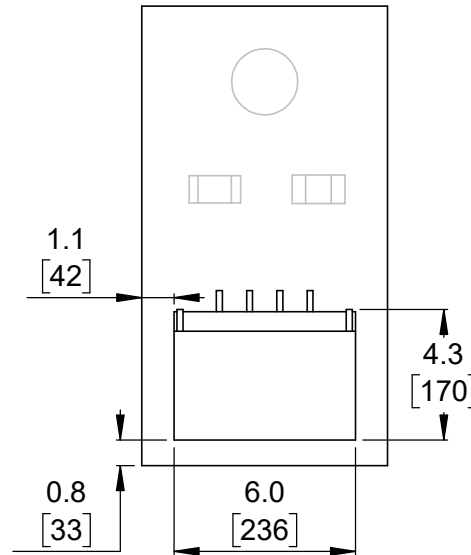
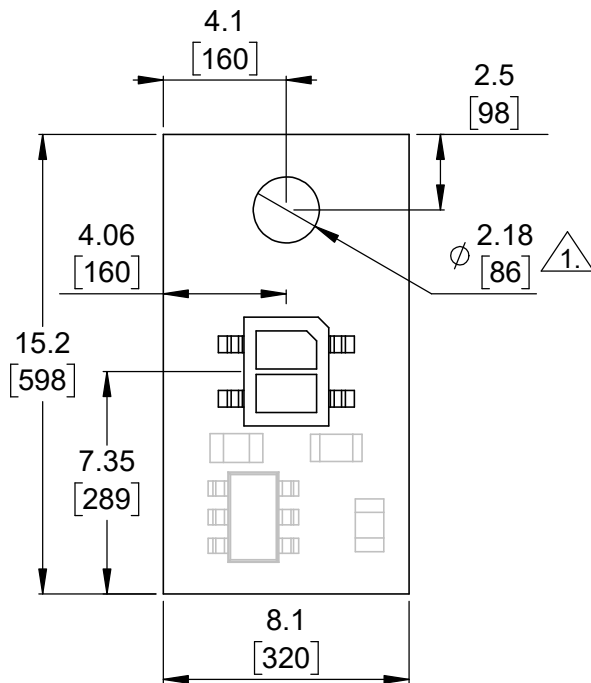


⑥ Actual size
Scale 1:1

1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

<https://www.pololu.com/category/123>

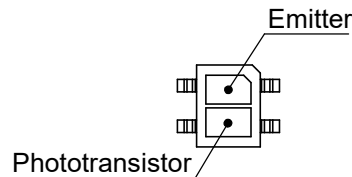
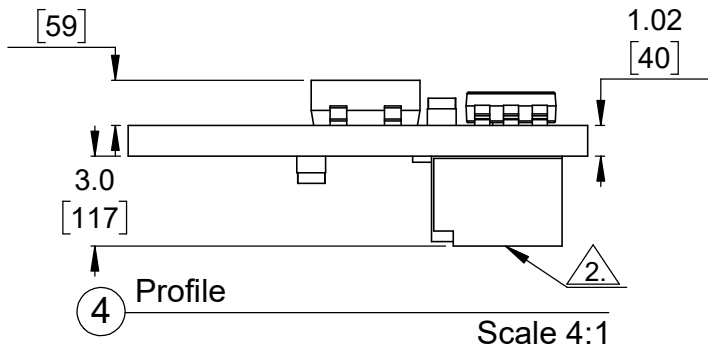
Name: QTRX/QTRXL-MD-01x Reflectance Sensor		Item number: 4341, 4441, 4541, 4641
Drawing date: 29 September 2025	Dev code: irs21k	 © 2025 Pololu Corporation
Units: mm [mil]	Material: mixed	



① Board dimensions (top view)
Scale 4:1

② Connector callouts (bottom view)
Scale 4:1

③ Isometric view
Scale 4:1



⑤ QTR sensor
Scale 3:1

⑥ Actual size
Scale 1:1

1.

Intended for #2 and M2 screws.

2.

Side-entry, 4-pin male JST SH-style connector (1.0 mm pitch).
To get the specified scale, select 100% in print settings.

3.

Drill location tolerance: ± 0.1 [± 5].

4.

Board edge tolerance: ± 0.3 [± 10].

5.

<https://www.pololu.com/category/123>

Name:

QTR-MD-01x-S Reflectance Sensor

Item number:

4140, 4240

Drawing date:

29 September 2025

Dev code:

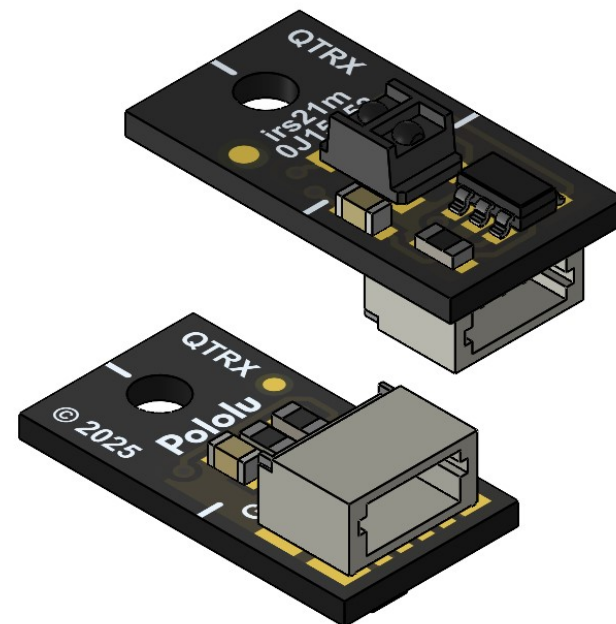
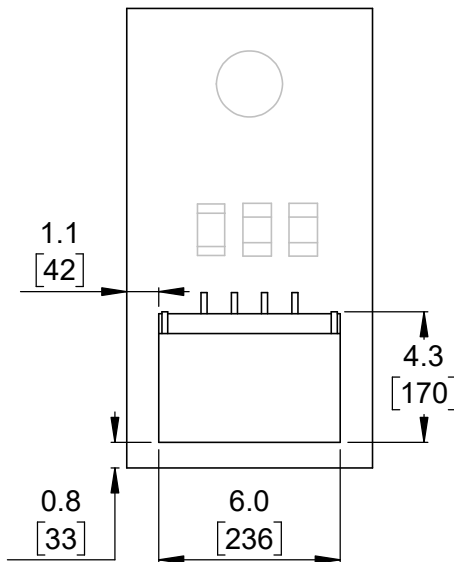
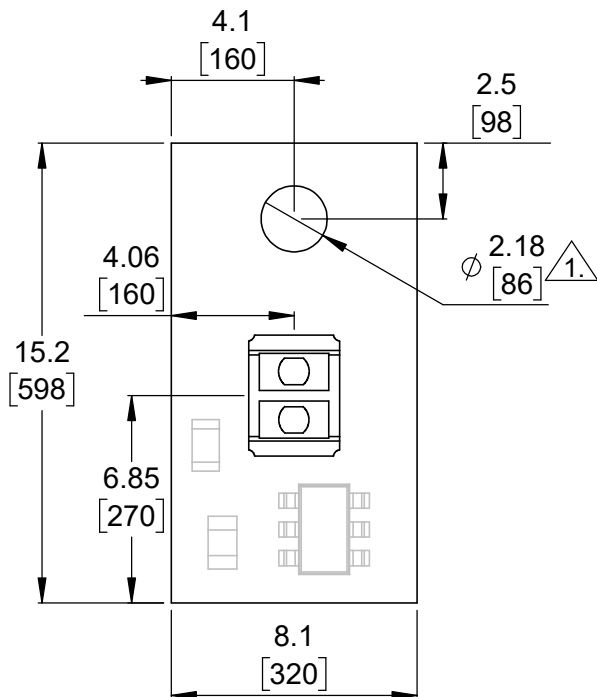
irs21c

Units: mm
[mil]

Material:

mixed

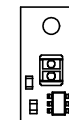
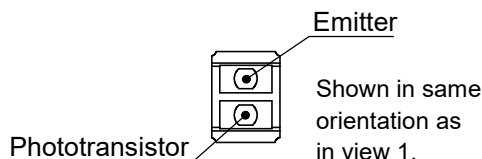
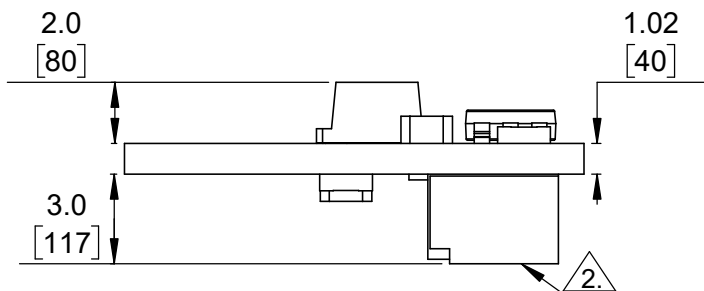
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① Board dimensions (top view)
Scale 4:1

② Connector callouts (bottom view)
Scale 4:1

③ Isometric view
Scale 4:1



④ Profile
Scale 4:1

⑤ QTRX/QTRXL sensor
Scale 3:1

⑥ Actual size
Scale 1:1

1.

Intended for #2 and M2 screws.

2.

Side-entry, 4-pin male JST SH-style connector (1.0 mm pitch).
To get the specified scale, select 100% in print settings.

3.

Drill location tolerance: ± 0.1 [± 5].

4.

Board edge tolerance: ± 0.3 [± 10].

5.

<https://www.pololu.com/category/123>

Name:

QTRX/QTRXL-MD-01x-S Reflectance
Sensor

Item number:

4340, 4440, 4540, 4640

Drawing date:

29 September 2025

Dev code:

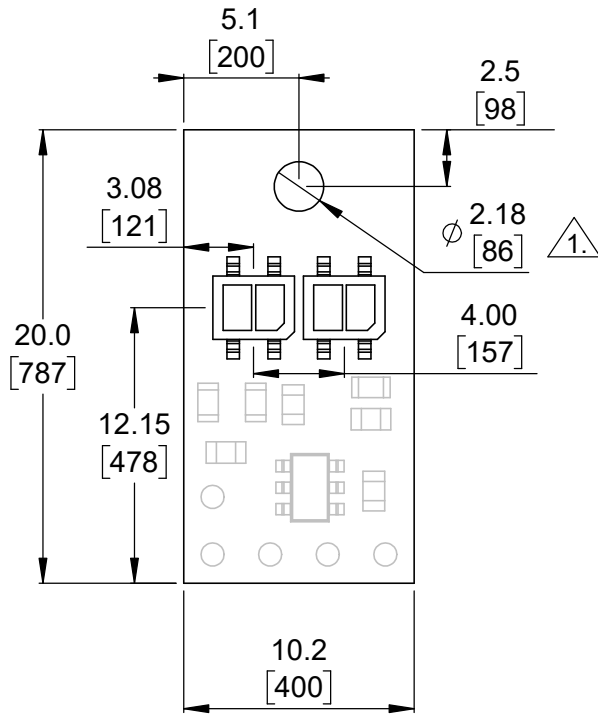
irs21m

Units: mm
[mil]

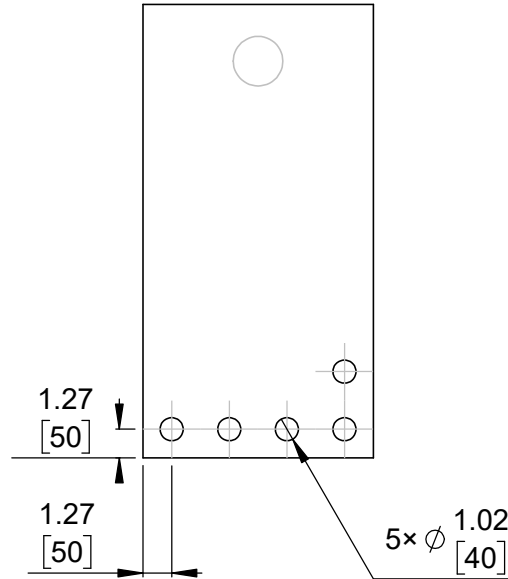
Material:

mixed

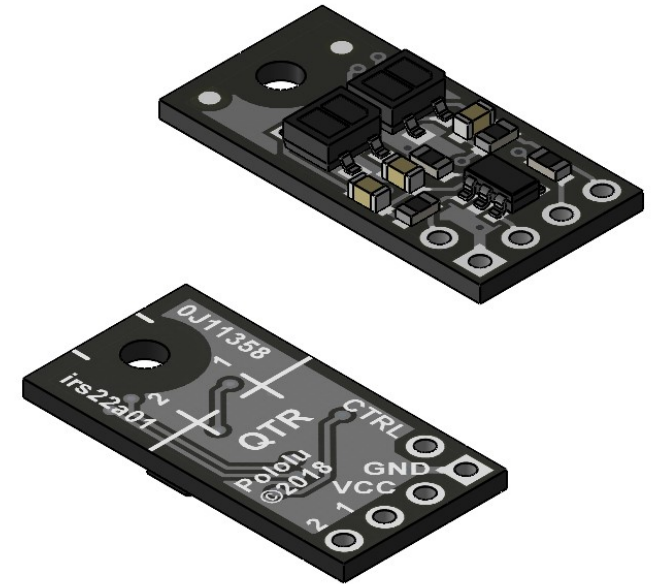
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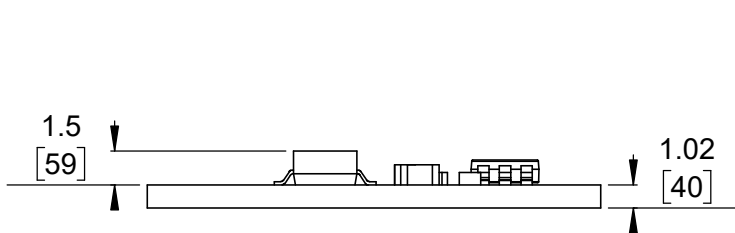
① Board dimensions (top view)
Scale 3:1



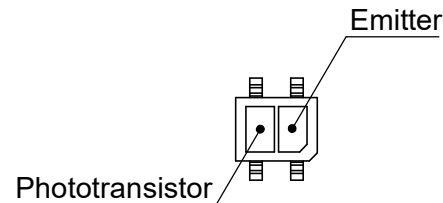
② Connector callouts (bottom view)
Scale 3:1



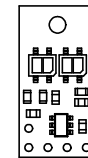
③ Isometric view
Scale 3:1



④ Profile
Scale 3:1



⑤ QTR sensor
Scale 3:1




⑥ Actual size
Scale 1:1

1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

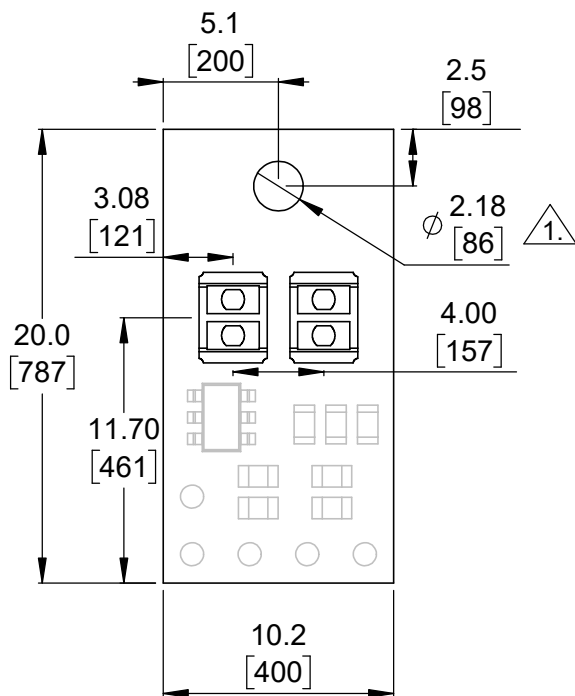
<https://www.pololu.com/category/123>

Name: QTR-HD-02x Reflectance Sensor Array		Item number: 4102, 4202
Drawing date: 29 September 2025	Dev code: irs22a	
Units: mm [mil]	Material: mixed	

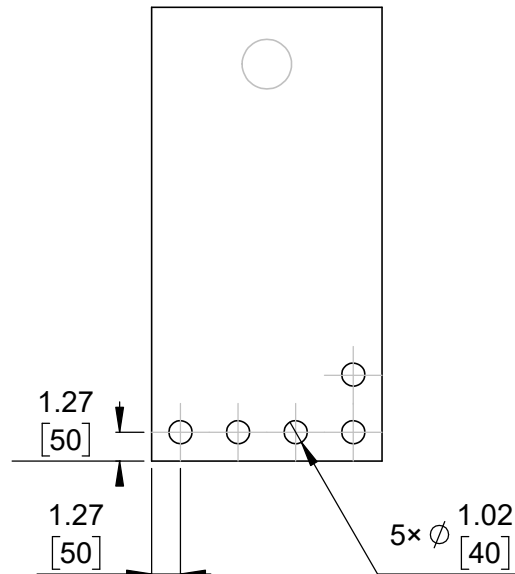


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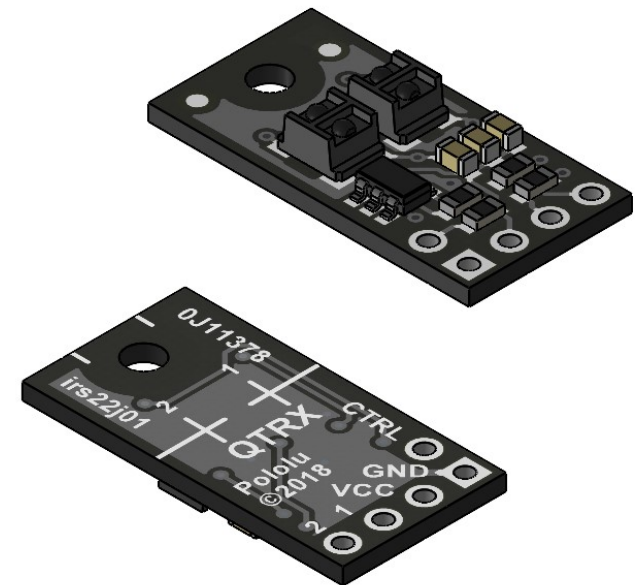
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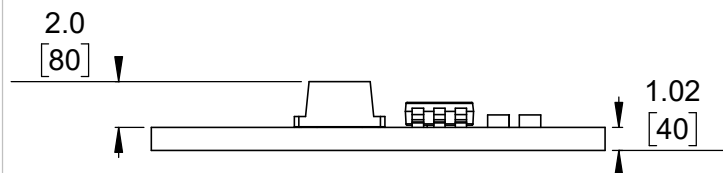
① Board dimensions (top view)
Scale 3:1



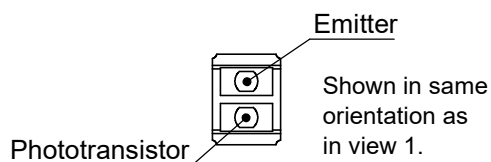
② Connector callouts (bottom view)
Scale 3:1



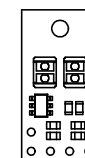
③ Isometric view
Scale 3:1



④ Profile
Scale 3:1




⑤ QTRX/QTRXL sensor
Scale 3:1

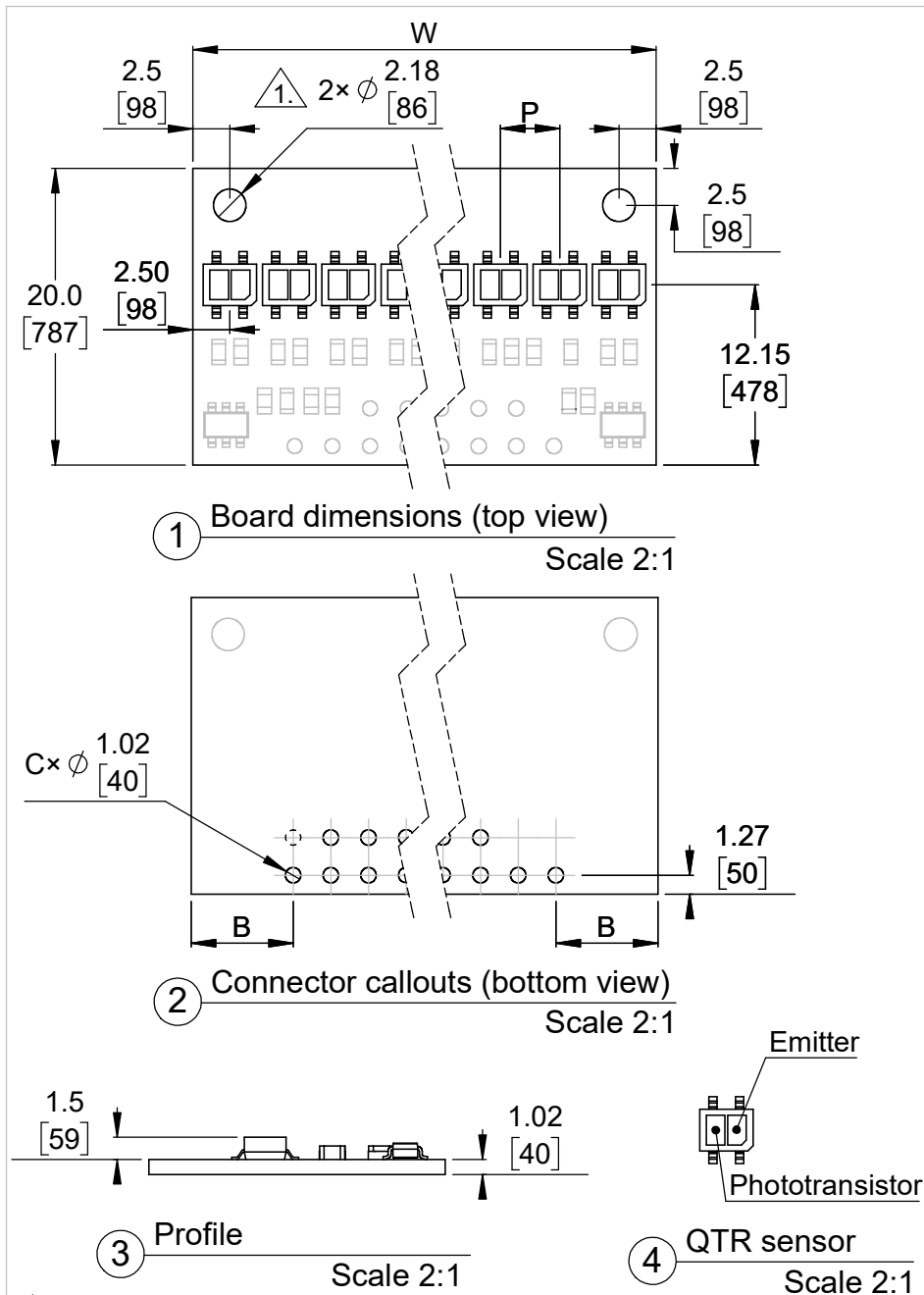


⑥ Actual size
Scale 1:1

1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

<https://www.pololu.com/category/123>

Name: QTRX-HD-02x Reflectance Sensor Array		Item number: 4302, 4402
Drawing date: 29 September 2025	Dev code: irs22j	 © 2025 Pololu Corporation
Units: mm [mil]	Material: mixed	




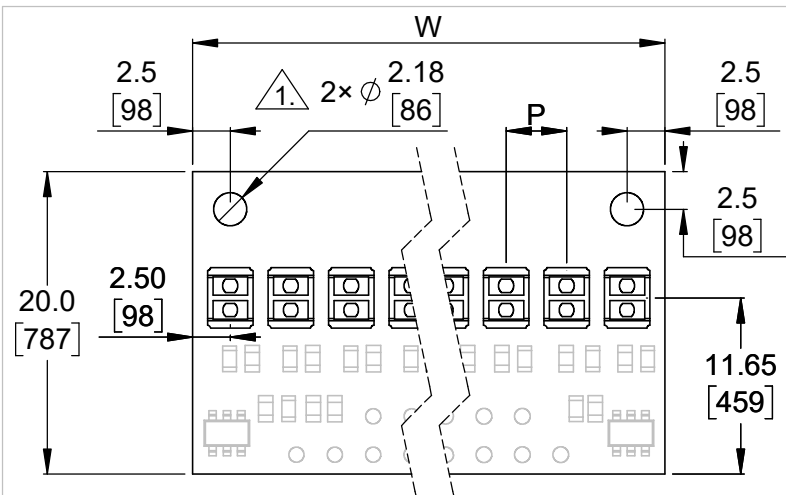
1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

Item numbers*	W (width)	P (pitch)	N (number of sensors)	B	C (hole count)
4103, 4203	13.0 [512]	4.00 [157]	3	1.42 [56]	7
4142, 4242		8.00 [315]	2		
4104, 4204	17.0 [669]	4.00 [157]	4	3.42 [135]	8
4105, 4205	21.0 [827]	4.00 [157]	5	4.15 [163]	9
4143, 4243		8.00 [315]	3		
4106, 4206	25.0 [984]	4.00 [157]	6	6.15 [242]	10
4107, 4207	29.0 [1142]	4.00 [157]	7	6.88 [271]	11
4144, 4244		8.00 [315]	4		
4108, 4208	33.0 [1299]	4.00 [157]	8	8.88 [350]	12
4109, 4209	37.0 [1457]	4.00 [157]	9	9.61 [378]	13
4145, 4245		8.00 [315]	5		
4111, 4211	45.0 [1772]	4.00 [157]	11	12.34 [486]	15
4146, 4246		8.00 [315]	6		
4113, 4213	53.0 [2087]	4.00 [157]	13	15.07 [593]	17
4147, 4247		8.00 [315]	7		
4115, 4215	61.0 [2402]	4.00 [157]	15	17.80 [701]	19
4108, 4208		8.00 [315]	8		
4117, 4217	69.0 [2717]	4.00 [157]	17	20.53 [808]	21
4109, 4209		8.00 [315]	9		
4119, 4219	77.0 [3031]	4.00 [157]	19	23.26 [916]	23
4110, 4210		8.00 [315]	10		

*Some items available by special order only.

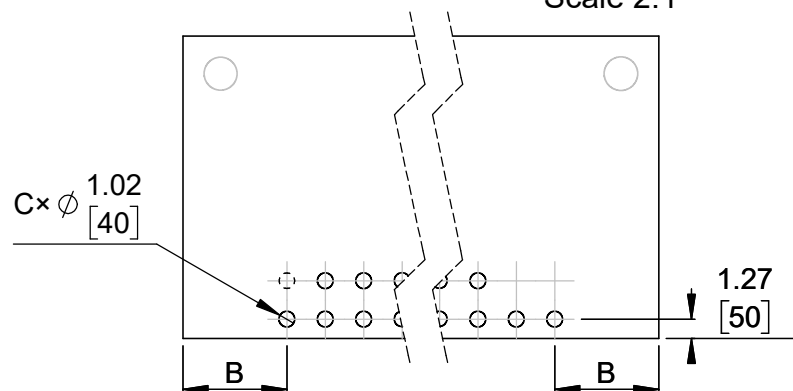
<https://www.pololu.com/category/123>

Name: QTR Reflectance Sensor Array		Item number: see table	
Drawing date: 29 September 2025	Dev code: irs23a-irs39a	 © 2025 Pololu Corporation	
Units: mm [mil]	Material: mixed		



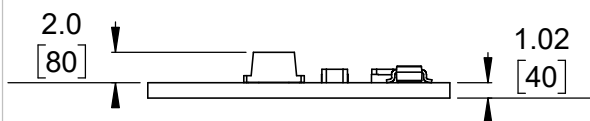
① Board dimensions (top view)

Scale 2:1



② Connector callouts (bottom view)

Scale 2:1



③ Profile

Scale 2:1

④ QTRX/QTRXL sensor

Scale 2:1



1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

Item numbers*	W (width)	P (pitch)	N (number of sensors)	B	C (hole count)
4303, 4403	13.0 [512]	4.00 [157]	3	1.42 [56]	7
4342, 4442		8.00 [315]	2		
4304, 4404	17.0 [669]	4.00 [157]	4	3.42 [135]	8
4305, 4405	21.0 [827]	4.00 [157]	5	4.15 [163]	9
4343, 4443		8.00 [315]	3		
4306, 4406	25.0 [984]	4.00 [157]	6	6.15 [242]	10
4307, 4407	29.0 [1142]	4.00 [157]	7	6.88 [271]	11
4344, 4444		8.00 [315]	4		
4308, 4408	33.0 [1299]	4.00 [157]	8	8.88 [350]	12
4309, 4409	37.0 [1457]	4.00 [157]	9	9.61 [378]	13
4345, 4445		8.00 [315]	5		
4311, 4411	45.0 [1772]	4.00 [157]	11	12.34 [486]	15
4346, 4446		8.00 [315]	6		
4313, 4413	53.0 [2087]	4.00 [157]	13	15.07 [593]	17
4347, 4447		8.00 [315]	7		
4315, 4415	61.0 [2402]	4.00 [157]	15	17.80 [701]	19
4348, 4448		8.00 [315]	8		
4317, 4417	69.0 [2717]	4.00 [157]	17	20.53 [808]	21
4349, 4449		8.00 [315]	9		
4319, 4419	77.0 [3031]	4.00 [157]	19	23.26 [916]	23
4350, 4450		8.00 [315]	10		

*Some items available by special order only.

<https://www.pololu.com/category/123>

Name:

QTRX Reflectance Sensor Array

Item number:

see table

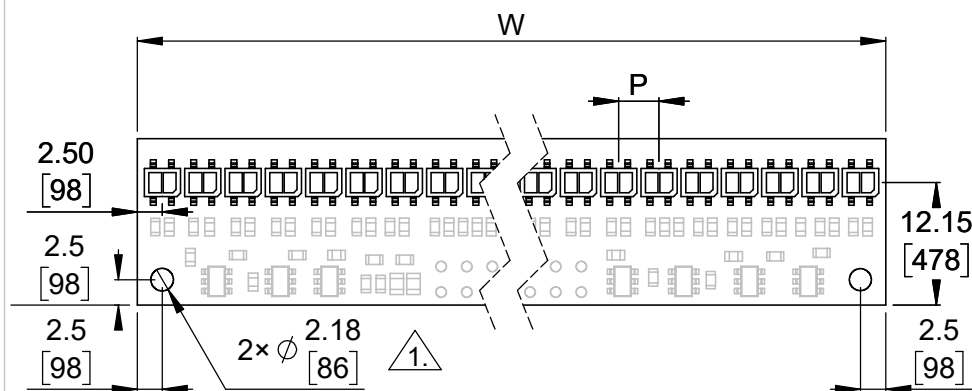
Drawing date:
29 September 2025

Dev code:
irs23j-irs39j

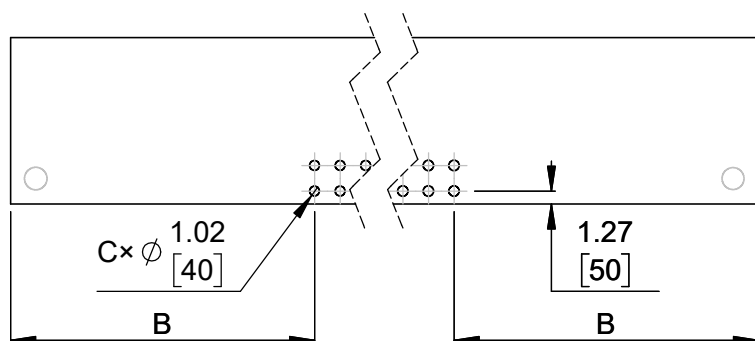
Units: mm [mil]

Material:
mixed

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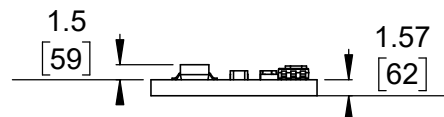
① Board dimensions (top view)
Scale 4:3



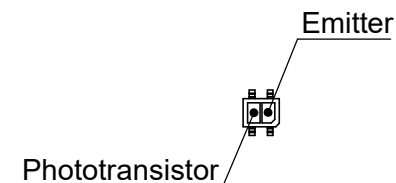
② Connector callouts (bottom view)
Scale 4:3

Item numbers*	W (width)	P (pitch)	N (number of sensors)	B	C (hole count)
4121, 4221	85 [3346]	4.00 [157]	21	24.72 [973]	30
4151, 4251		8.00 [315]	11	31.07 [1123]	20
4123, 4223	93 [3661]	4.00 [157]	23	27.45 [1081]	32
4152, 4252		8.00 [315]	12	35.07 [1381]	20
4125, 4225	101 [3976]	4.00 [157]	25	30.18 [1188]	34
4153, 4253		8.00 [315]	13	37.80 [1488]	22
4127, 4227	109 [4291]	4.00 [157]	27	32.91 [1296]	36
4154, 4254		8.00 [315]	14	41.80 [1646]	22
4129, 4229	117 [4606]	4.00 [157]	29	35.64 [1403]	38
4155, 4255		8.00 [315]	15	44.53 [1753]	24

*Some items available by special order only.




③ Profile
Scale 4:3

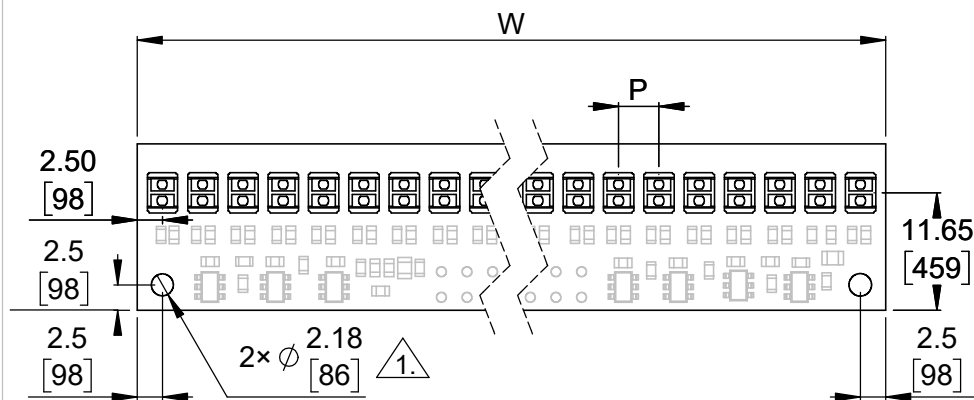


④ QTR sensor
Scale 4:3

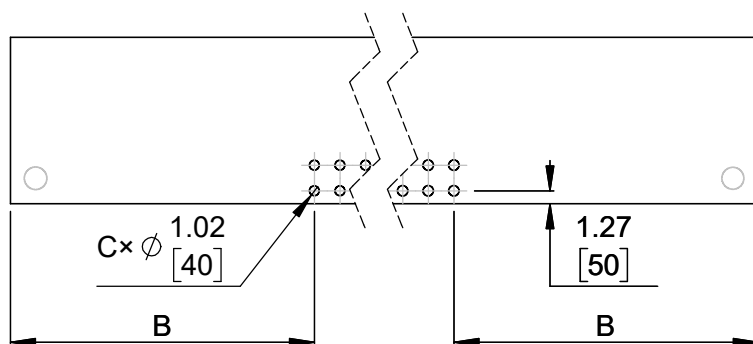
1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

<https://www.pololu.com/category/123>

Name: QTR Reflectance Sensor Array		Item number: see table	
Drawing date: 29 September 2025	Dev code: irs41a-irs49d	 © 2025 Pololu Corporation	
Units: mm [mil]	Material: mixed		



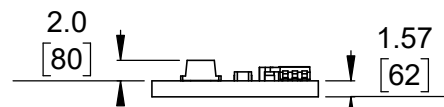
① Board dimensions (top view)
Scale 4:3



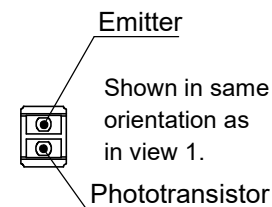
② Connector callouts (bottom view)
Scale 4:3

Item numbers*	W (width)	P (pitch)	N (number of sensors)	B	C (hole count)
4321, 4421	85 [3346]	4.00 [157]	21	24.72 [973]	30
4351, 4451		8.00 [315]	11	31.07 [1123]	20
4323, 4423	93 [3661]	4.00 [157]	23	27.45 [1081]	32
4352, 4452		8.00 [315]	12	35.07 [1381]	20
4325, 4425	101 [3976]	4.00 [157]	25	30.18 [1188]	34
4353, 4453		8.00 [315]	13	37.80 [1488]	22
4327, 4427	109 [4291]	4.00 [157]	27	32.91 [1296]	36
4354, 4454		8.00 [315]	14	41.80 [1646]	22
4329, 4429	117 [4606]	4.00 [157]	29	35.64 [1403]	38
4355, 4455		8.00 [315]	15	44.53 [1753]	24

*Some items available by special order only.




③ Profile
Scale 4:3

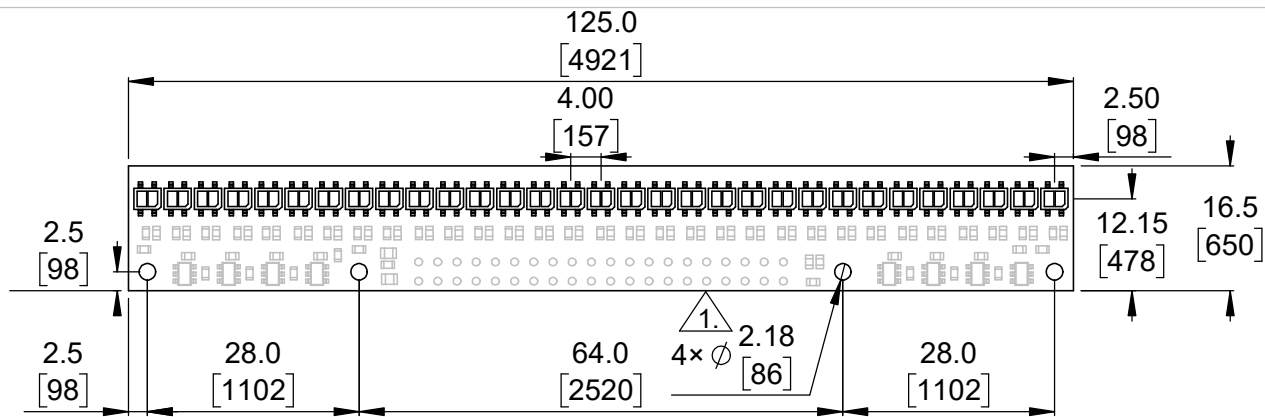


④ QTRX/QTRXL sensor
Scale 4:3

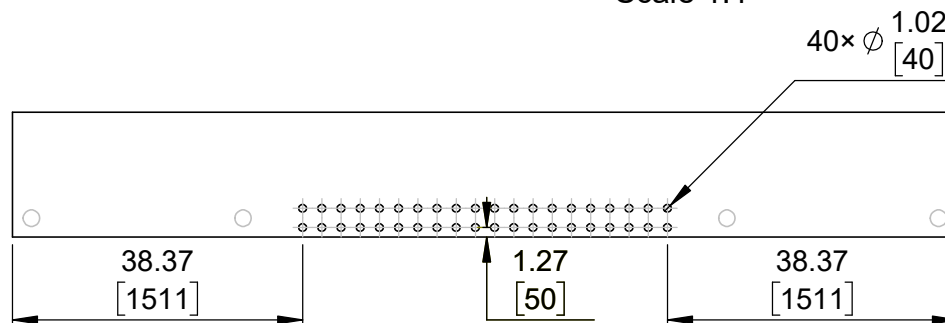
1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

<https://www.pololu.com/category/123>

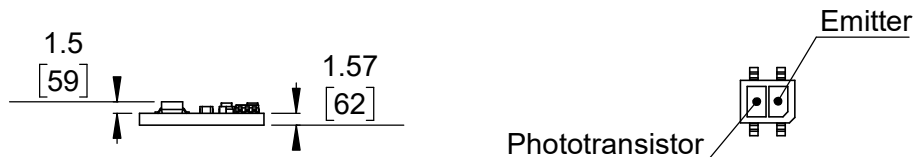
Name: QTRX Reflectance Sensor Array		Item number: see table	
Drawing date: 29 September 2025	Dev code: irs41j-irs49m	 © 2025 Pololu Corporation	
Units: mm [mil]	Material: mixed		



① Board dimensions (top view)
Scale 1:1

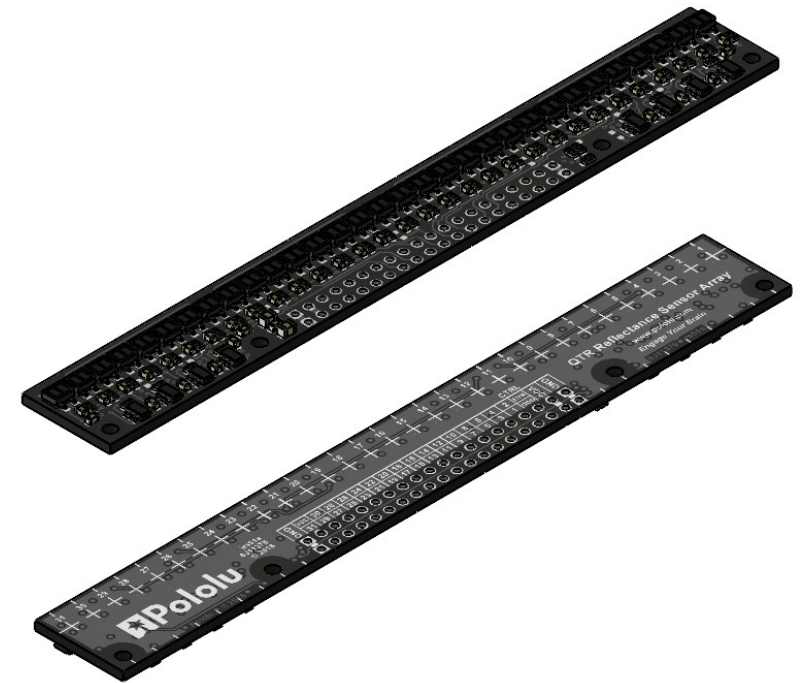


② Connector callouts (bottom view)
Scale 1:1



③ Profile
Scale 1:1

④ QTR sensor
Scale 2:1




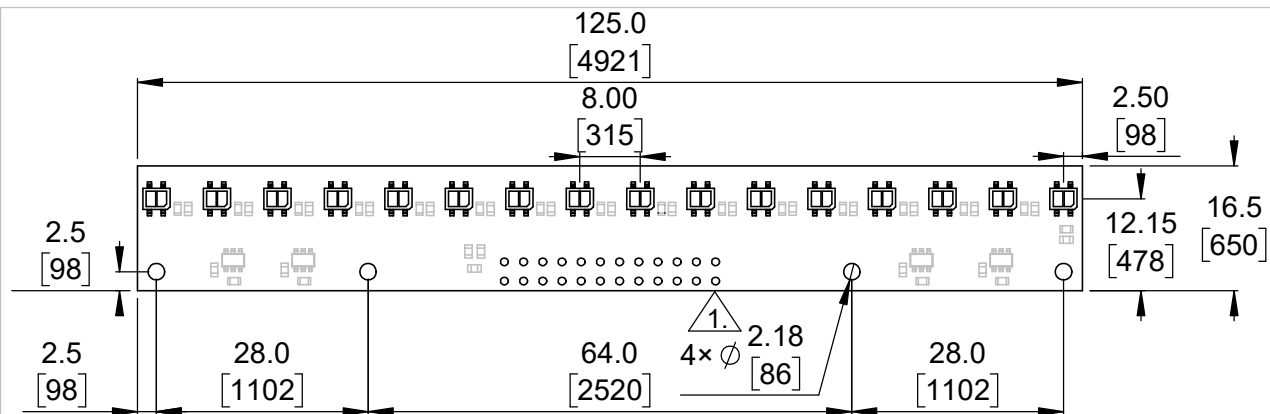
⑤ Isometric view
Scale 1:1



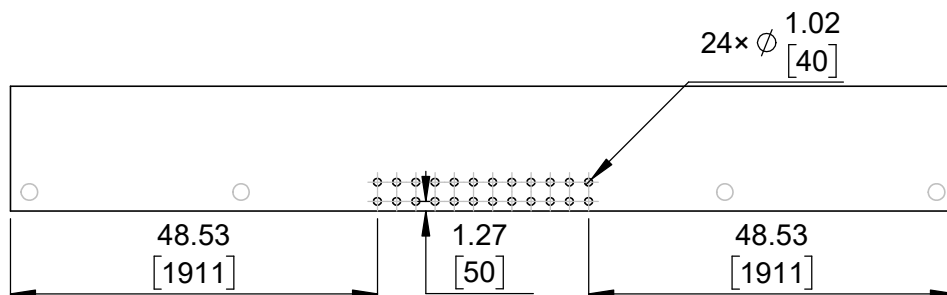
1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

<https://www.pololu.com/category/123>

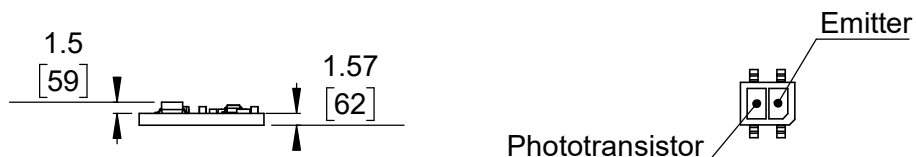
Name: QTR-HD-31x Reflectance Sensor Array		Item number: 4131, 4231
Drawing date: 29 September 2025	Dev code: irs51a	 © 2025 Pololu Corporation
Units: mm [mil]	Material: mixed	



① Board dimensions (top view)
Scale 1:1

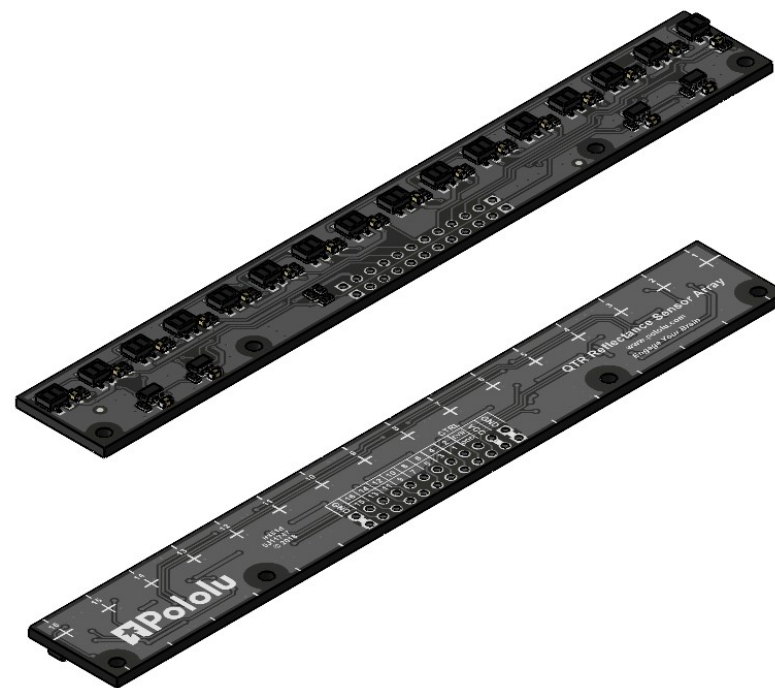


② Connector callouts (bottom view)
Scale 1:1



③ Profile
Scale 1:1


④ QTR sensor
Scale 2:1

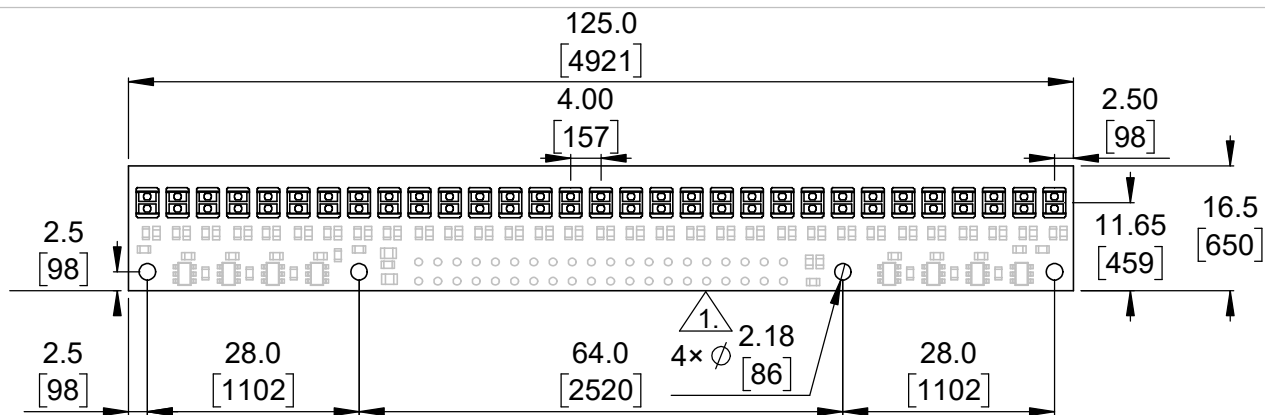


⑤ Isometric view
Scale 1:1

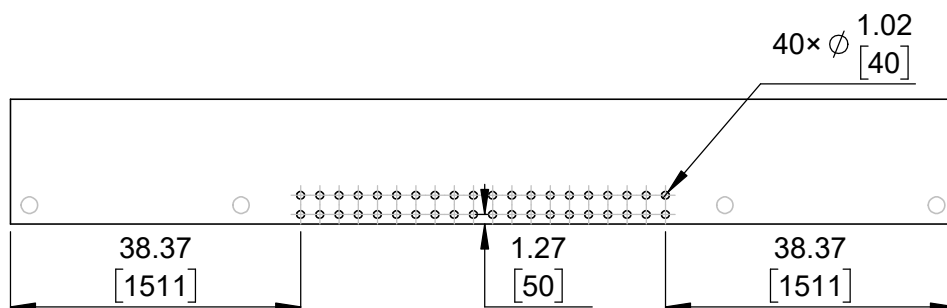
1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

<https://www.pololu.com/category/123>

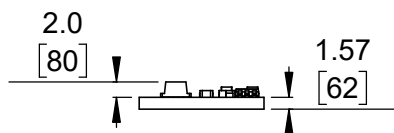
Name: QTR-MD-16x Reflectance Sensor Array		Item number: 4156, 4256
Drawing date: 29 September 2025	Dev code: irs51d	 © 2025 Pololu Corporation
Units: mm [mil]	Material: mixed	



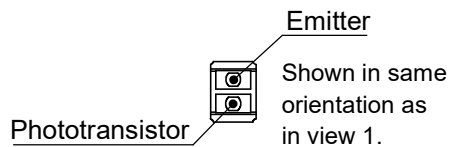
① Board dimensions (top view)
Scale 1:1



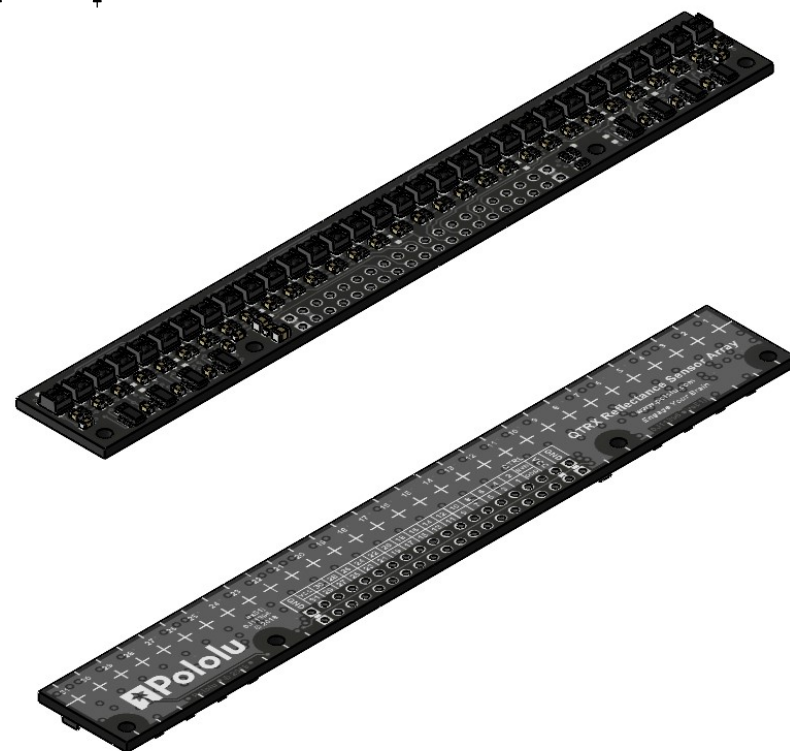
② Connector callouts (bottom view)
Scale 1:1



③ Profile
Scale 1:1



④ QTRX/QTRXL sensor
Scale 2:1



⑤ Isometric view
Scale 1:1



1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

<https://www.pololu.com/category/123>

Name:
QTRX-HD-31x Reflectance Sensor Array

Item number:
4331, 4431

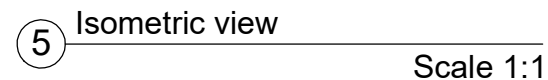
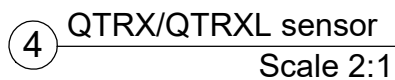
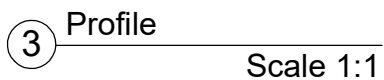
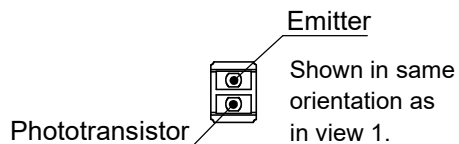
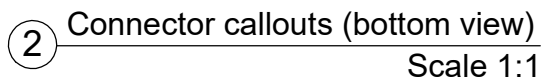
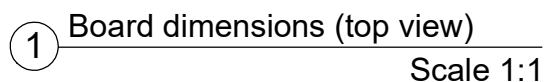
Drawing date:
29 September 2025

Dev code:
irs51j

Units:
mm [mil]


Material:
mixed

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1. Intended for #2 and M2 screws.
2. Grid lines indicate 2.54 mm [100 mil] spacing.
3. To get the specified scale, select 100% in print settings.
4. Drill location tolerance: ± 0.1 [± 5].
5. Board edge tolerance: ± 0.3 [± 10].

https://www.pololu.com/category/123		
Name: QTRX-MD-16x Reflectance Sensor Array		Item number: 4356, 4456
Drawing date: 29 September 2025	Dev code: irs51m	
Units: mm [mil]	Material: mixed	



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